NHS
Blood and Transplant

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COVID-19 and blood group serology testing in hospital transfusion laboratories – 13.3.20

This resource has been prepared by the NBTC's lab managers' group with input from NHSBT Red Cell Immunology (RCI) and Customer Service colleagues.

This information is for guidance only and local factors influencing practice need to be taken into account.

We will upload this document to the Hospitals and Science COVID-19 webpage and will update as needed based on additional information/national guidance.

Frequently Asked Questions

1) Are samples from patients with COVID-19 safe to process on a blood transfusion analyser?

The government advice is here.

The guidance enables hospital transfusion laboratories to process blood grouping and antibody testing to support issue of compatible blood and recommends the use of automation

A risk assessment should be undertaken locally ideally in conjunction with your infection control team and as part of a pathology wide risk assessment.

The risk assessment should include as to whether it is necessary to process samples in a microbiological safety cabinet (MSC).

2) Is it not safer to just give patients with COVID-19 Group O red cells?

The risk to laboratory staff handling blood samples from infected patients is no greater than for samples from patients with other viral infections, although it is appreciated that some laboratory staff are concerned about handling these samples.

Giving patients emergency Group O blood is also not without risk and should only be undertaken when there is a clinical emergency which is a greater risk to the patient than waiting for cross matched blood. To give a patient Group O red cells without performing a blood group or antibody screen in non-urgent situations will increase the risk to the patient, for example, delayed haemolytic transfusion reaction if red cell antibodies are not detected.

Prior to the virus pandemic, the UK was already facing difficulties matching supply with demand of Group O D negative red cells. This component must be preserved for patients in genuine need, refer to the NBTC guidance Appropriate use of group O D negative red cells 2019.

Also with the expected drop in donations, if all infected patients are automatically given Group O red cells, this will increase the risk of blood shortages and blood not being available for Group O patients in clinical need. Furthermore, patients severely affected by COVID-19 may require ECMO support.

This therapy requires intense blood component support. Rather than deplete Group O stocks, patient's own blood group should be provided wherever possible to support this treatment.

3) Should I increase my blood stocks in light of a potential UK shortage?

This is counter-intuitive and is actively discouraged. Modelling and experience of coronavirus and similar respiratory virus infection outbreaks and pandemics suggests a reduction in demand for blood as most patients with respiratory viral infections do not need blood. In addition, the number of patients in hospitals requiring blood will decrease due to cancelled planned procedures (such as surgery and transplantation) and closure of non-urgent services.

All hospitals must have Emergency Blood Management Plans in place at all times (even in the green phase) so they can respond quickly should blood shortages arise (i.e. transition to amber or red phase). It is essential that everyone uses the stocks available in an appropriate manner to ensure that blood is available for those patients in need. Increasing stock holding is likely also to lead to increased wastage within hospitals and may impact negatively on colleagues in other hospitals (such as those with specialist ITU beds for ECMO).

Emergency planning tips

1. Ensure that you liaise closely with your hospital emergency preparedness team and keep them updated with information released from NHSBT regarding stock availability
2. Ensure you have reviewed your pandemic plans and blood shortage plans and understand actions needed prior to the need to implement them
3. NHSBT will continue to provide regular updates on blood stocks and advice re stock holding.

4) Can I send all my group and antibody screens from COVID-19 positive patients to the NHSBT RCI lab for processing?

It is not possible for a laboratory to send their routine work to RCI without an appropriate contract. RCI do not have capacity for additional testing of this sort, laboratory staffing levels may also be affected by the infection and we ask that you only send genuine reference work to help ensure that this service can continue to be offered to all.

5) Can I still refer a sample from a patient with COVID-19 for specialist referral work to NHSBT RCI?

Yes – please ensure the sample is labelled as high risk and inform the relevant laboratory of the referral. Ensure that samples are packaged according to UN3373. RCI may be unable to undertake some techniques requiring complex or prolonged manipulation steps. The need for these, and clinical management of these patients, can be discussed at referral or subsequently. Where possible please avoid referral of samples from patients with COVID-19 for overnight investigation.

6) I'm worried that all the hospital laboratory staff will be unavailable to work

It is possible that the staffing in laboratories will drop as the number of patients affected increases and if increased levels of social isolation are imposed (such as school closures). In preparation for this, review your business continuity plans in conjunction with the other laboratories in your trust. It is expected that at times of staff shortage, essential core services (such as blood transfusion) will be prioritised but each laboratory will need to determine how this is done.

7) A retired member of staff has offered to come in and work, what do I need to consider?

The decision whether or not to accept offers of help from retired staff has to be made on an individual basis. Factors such as how long the individual has been retired, whether or not they are still HCPC registered and where their laboratory expertise lies should be considered. Any new staff brought into the department will require training and competency assessment. Consider only using the staff for a specific area or task (e.g. running the automation) so as to limit the amount of training and assessment which will be needed.

8) Clinical staff are asking about the recommendation for pre-labelling samples

The recommendation for the use of standard protocols for pre compatibility testing sample labelling should not be compromised. The guidance from both BSH and SHOT is clear and recommends only labelling the sample post collection at the patient's bedside. To change this practise would increase the risk to the patients and as such we should insist on correct sample labelling.

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